

for Mr. Sabine Baring-Gould to exclaim with the Prince of Morocco, "Farewell heat, and welcome frost." The magnificently illustrated volume on Iceland, its Scenes and Sagas, without doubt deserves a brief mention in these pages; for the author, in addition to his accomplishments as a classical and an Icelandic scholar, shows that he has a very fair knowledge of natural history. Indeed, if we are not greatly mistaken, the book before us contains more information on the zoology of Iceland than has ever hitherto been given by any of our fellow-countrymen, and, with regard to the botany, more than has been published in the English language since Sir William Hooker, some fifty years ago, brought out his 'Journal.' Mr. Baring-Gould narrates his adventures in a very agreeable manner, interspersing them with fragments of Sagas, most of which will be new to the British public, and, what is more to our purpose, with notices of the natural history of the island. To these are added certain appendices—one, on Icelandic Ornithology, contributed by Mr. Alfred Newton, and another, by the author himself, giving a list of Icelandic Plants. The former seems to have been drawn up with some care, though at least one species, *Ibis falcinellus*, recorded so long ago as 1836, and by so distinguished an authority as the late Professor Reinhardt (Vidensk. Selsk. Afh. vii. p. 96), has escaped attention. Altogether we feel sure that our readers will derive a large amount of amusement and interest from the perusal of this work, and we have much pleasure in recommending it to their notice generally, but more especially to any intending visitor to Iceland.

## PROCEEDINGS OF LEARNED SOCIETIES.

### ZOOLOGICAL SOCIETY.

Jan. 27, 1863.—G. R. Waterhouse, Esq., V.P., in the Chair.

#### CONTRIBUTION TO THE HERPETOLOGY OF CERAM.

BY DR. A. GÜNTHER.

We are indebted for our knowledge of the reptiles of Ceram to Dr. P. v. Bleeker, who, in a paper, "Over de Reptilien-Fauna van Ceram"\*\*, enumerates thirty-eight species collected at Wahaai, on the northern coast of that island, and at Paulohi on the southern coast.

Having received a small collection of these animals from North Ceram, I am enabled to add the following species:—*Tiliqua rufescens*; *Cyclodus carinatus*, n. sp.; *Coluber holochrous*, n. sp.; *Fordonia unicolor*, Gray; *Cerberus acutus*, Gray; and *Diemennia Mülleri*, Schleg. However, it is probable that three of these species are comprised in Bleeker's list, but under different names, viz., *Cyclodus carinatus*, mihi, as *C. Boddaërtii*, D. & B.; *Fordoniu unicolor*, Gray, as *Eurostus plumbeus*, D. & B.; and *Cerberus acutus*, Gray, as *Cerb. boæformis*, D. & B. Therefore, taking the number of Ceramese reptiles known as forty-one, we find that thirty-five of

\* Nat. Tydschr. Nederl. Ind. 1860.

them are referable to the fauna of the Indian Archipelago, whilst the remaining six belong to genera which have hitherto been considered as peculiar to the Australian region. Those six are *Cyclodus*, *Liasis*, *Enygrus*, *Acanthophis*, *Diemennia*, and *Pelodryas* (*Hyla cyanea*).

*Dipsas irregularis* appears to be one of the most common Snakes in Ceram. One large specimen had swallowed the egg of a bird, probably that of a middle-sized parrot; it was but slightly cracked on one end. This Snake has no oesophageal teeth.

*Fordonia unicolor* feeds on freshwater crabs.

*Enygrus carinatus* has twenty-seven series of scales. Schlegel has counted thirty-three.

*Acanthophis cerastinus*.—The specimens from Ceram differ from those of the Australian continent in the coloration. They are light reddish olive, with indistinct darker cross-bands in young age; a series of black dots runs along each side of the front part of the belly and of the tail. The other markings of the head are the same as in Australian specimens; and as there is no other difference in the form, in the shields, or scales, I consider it merely as a variety, for which I propose the name of *ceramensis*.

The two following species appear to be new :—

#### CYCLODUS CARINATUS.

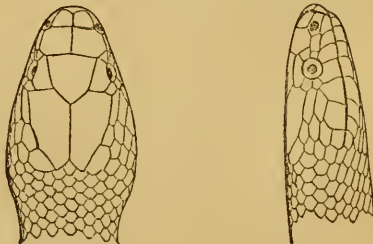
Similar to *C. gigas*, and with the same elongate temporal shields; but the scales are larger, there being thirty-two in a series round the body, and fifty in a longitudinal row between the axils of the fore and hind limbs\*. The median scales along the back are very distinctly keeled, the keels forming slight longitudinal ridges along the back of the tail.

Brownish olive, with about ten narrow black bands across the back of the trunk; sides and belly marbled with black; limbs black.

Total length 18 inches, of which the tail measures 8 inches.

#### COLUBER HOLOCHROUS.

*Scales smooth, without groove, in seventeen rows. Seven upper labials; two anterior and two posterior oculars. Uniform brownish grey; belly and the outer series of scales dull yellowish.*



Body and tail moderately elongate, but slightly compressed.

\* *Cyclodus gigas*, from New Holland, has thirty-six series of scales round the body, and fifty-seven or sixty between the fore and hind limbs.

Rostral shield broader than high, scarcely reaching to the upper surface of the head; anterior frontals not quite half as large as the posterior; vertical pentagonal, as broad as long, the lateral edges being shorter than the anterior. Occipital shields moderate, slightly notched behind. Nostrils wide, the suture between the two nasals being very indistinct. Loreal large, longer than high; two anterior and two posterior oculars, the upper antecular not being in contact with the vertical. Seven upper labials, the third and fourth coming into the orbit. Eight temporal shields in three transverse series; the two anterior temporals are somewhat elongate, and the upper of them is in contact with both postoculars, the others are scale-like. Eight lower labials, five of which are in contact with the chin-shields. Ventral shields 206; anal entire; subcaudals eighty-seven. There are six or seven rather strong teeth in each maxillary, and ten in each mandible. Eye rather small, two-fifths of the length of the snout.

Total length 43 inches.

If we divide the *Colubri* with equal or subequal teeth into the subgeneric divisions of *Coluber*, *Elaphis*, *Cynophis*, *Spilotes*, and *Coryphodon*, as indicated in my 'Catalogue of Colubrine Snakes,' p. 84, the present species does not enter any of these sections; and we may propose the name of *Lielaphis* for a sixth group, of which *C. holochrous* is the type, and to which also *Spilotes samarensis*, Peters, belongs. Its characters would be:—Rostral moderate; body and tail rather elongate and compressed; two anterior and two posterior oculars. Scales smooth. Teeth subequal, in small number.

Feb. 24, 1863.—E. W. H. Holdsworth, Esq., in the Chair.

The following letter, relating to the habits of the Caddis-worm (larva of *Phryganea*), addressed to Dr. Gray by Miss E. M. Smee, was read to the Meeting:—

“ Feb. 19, 1863.

“ MY DEAR SIR,—I have ventured to send for your inspection a box containing cases made by the Caddis-worm, the worms of which were collected by myself from that part of the Wandle which runs through our garden at Wallington.

“ I found, on examining the natural cases, that they were made of different materials. For instance, some were constructed of small stones finely glued together, others of sticks, and some were formed of sticks and stones combined. Again, some were made of leaves of water-plants, and I observed that others were formed of the shells of creatures which inhabited the same stream.

“ As I had never seen or heard of these Caddises before, I felt much astonished that creatures somewhat resembling maggots, and living at the bottom of the river, should live in houses built by themselves, and yet that these houses should differ so greatly in their construction. Indeed I was so interested that I determined, if possible, to discover the capabilities which these creatures possessed of forming different kinds of dwellings under different circumstances. I very much desired to know whether they could construct cases from other

kinds of materials, besides those usually existing in the river in which they lived.

“ To ascertain the fact, I accordingly turned the worms out of their natural cases, and gave them different substances to work upon ; but I found that they had not an equal facility with every material ; for whilst with some they formed cases which were attended with good results, with others they entirely failed.

“ The worms succeeded well when they were supplied with pieces of glass, amethyst, cairngorm, cornelian, onyx, agate, coral, coralline, marble, shells, jet, brass shavings, gold-leaf, silver-leaf, when existing as small fragments.

“ When, however, the worms were supplied with round objects, they invariably failed ; and although I have repeatedly tried them with small glass beads and other round objects, I never found that with these they were capable of forming a case.

“ But these Caddises also failed to make themselves houses from other causes than that of the roundness of an object ; for I found that if these creatures were placed among materials strongly scented, or which contained poisonous matter, not only were they unable to build with them, but in most cases the substances proved fatal to the worms. When I tried them with pine-wood, my Caddises would in a short time become completely stupified from the turpentine contained in the wood, from which they often never recovered. With pieces of coal, brick, or slate they never succeeded in making a case, although these substances did not cause their death. The reason for their failure I attributed to some kind of odour which might have emanated from these different materials. With painted or varnished objects they also failed. Not every kind of metal was suitable for their buildings ; for neither with tin, or lead, or copper did they succeed. I found that if one Caddis was not able to make a case out of any one kind of material, no other Caddis could succeed, although I might try several others with the same material.

“ After a Caddis had made two or three houses, I used to give it something fresh to work upon, and oftentimes I supplied it with a totally different material. With these new substances it proceeded to build as quickly as before, constructing its new habitation according to the shapes of the pieces it had then to deal with.

“ The maximum amount of artificial cases I could get any Caddis-worm to make was five, the last one being very brittle, the parts being scarcely glued together. After they had built so many houses, if turned out of the last house, they would simply bury themselves and remain in a quiescent state. But I think that if the Caddises were procured early in the year, the number of their cases might be considerably increased.

“ It is a most curious sight to see these little creatures building their houses, beginning by cementing a number of pieces loosely together. This is merely used as a foundation for building its subsequent structure ; for it is always cast off before the house is completed. After they have laid the foundation, they proceed by lifting up each piece of stone, or whatever the material may consist of, with their

feet, turning it on all sides to discover whether it will fit into the space, and if it does not, as is frequently the case, that piece of stone is instantly rejected, and another is tried after the same manner, until they succeed in finding a suitable piece, when it is cemented to the other stones by a secretion which I ascertained proceeded from their mouth.

“When their house is made, the body of the creature is completely encased; their heads and feet alone protruded.

“In their natural state, the weight of these cases varies much. They are twice as heavy, and made of more solid materials, when the creatures inhabit rapid streams than when they live in still waters. The reason of this difference is, I suppose, to enable themselves to keep, by the weight of their cases, at the bottom of the water.

“I noticed that, after the Caddis-worms were turned out of their cases, air-bubbles appeared on the surface of their bodies. If placed under these circumstances in running water, these air-bubbles would cause the creatures to rise to the surface and there float until they died from exhaustion, caused by their hard endeavours to reach the bottom. According to the roughness of the water, so must be the weight of their cases.

“When in the pupa-state, their heads and feet are entirely withdrawn into their cases; and they remain in a dormant state, neither eating nor moving, until they turn into flies, their cases being more or less split in the act of transformation.

“I used to feed some of my Caddises whilst in the larva state with small pieces of raw meat, which they ravenously devoured; they would even eat a common house-fly, leaving only the wings, head, and legs; but however hungry they might be, yet they never could be induced to touch cooked meat.

“I found it was quite necessary for the Caddises to have plenty of food whilst in the larva state, to enable them to have strength to undergo the transformation.

“Trout are the great enemies of the Caddises, as they eat them up, cases and all, in every stage of their existence; but they consider the worms without the cases as especially dainty morsels.

“On the 24th of January this year, I observed that the Caddises were just hatched; and although some were so small that they were only visible with a lens, yet every one was busily employed in making its little house.

“They have grown so quickly that, since that date, they are now quite conspicuous at the bottom of the river.

“The box I send to you contains in the centre the cases made from the various materials I gave to the worms, and encircling the artificial cases are the natural habitations as taken from the river.

“Trusting you will find them worthy of your inspection,

“Believe me to remain,

“My dear Sir,

“To Dr. Gray, F.R.S.,  
of the British Museum.”

“Yours faithfully,

“ELIZABETH MARY SMEE.”

“P.S. The Caddises are so excessively pugnacious that I am

always obliged to keep each in a separate vessel. If that precaution were not taken, instead of peaceably constructing their houses, a fierce warfare would be carried on between them, which would result in the death of the weakest party. After one was killed, the survivor would set about building its house. I generally kept about thirty small white earthen jars at a time, each being filled with water, and containing a single Caddis-worm, with the particular material of which I wished its house to be constructed.

“The Caddises are provided with two little hooks, situated one on each side of the *tergum*. These little hooks are curved and sharply pointed. With these they securely fasten themselves in their houses, by which extra strength is given to resist their being torn from their cases. At first, on account of these hooks, I experienced some difficulty in turning them out of their habitations. Indeed, I was often so unfortunate as to break and consequently spoil their cases; or sometimes, after catching the creature by its head and trying to pull it forcibly out, I have known the creature to retain its hold so firmly by means of its hooks, that its body has been pulled in two rather than it would let go its hooks and suffer its house to be taken from it. At last I found that when a pin was gently pushed into the end of the case, the slight irritation would cause the Caddis to crawl entirely out of its house, and thus I was enabled to preserve the case without causing injury to the worm.”

#### ON A NEW BIRD FROM THE ISLAND OF MADAGASCAR.

BY ALFRED NEWTON, M.A., F.L.S., F.Z.S.

My brother, Mr. Edward Newton, Assistant Colonial Secretary at Mauritius, and a Corresponding Member of this Society, having had last autumn the good fortune to make a second visit to Madagascar, has sent me a collection of birds from that island, containing many objects of great interest, among which is one that I believe forms a genus very distinct from any previously known. This I have now the honour to exhibit and describe.

**HYPERPES\***, genus novum *Certhianum* vel *Sittinum*.

Char. Gen.—*Rostrum breve, robustum, leviter emarginatum, ad apicem aliquanto compressum, rictu setoso. Alæ mediocres, rotundatæ, ad caudam mediam attingentes, remige quarto, quinto et sexto æqualibus; tertio septimum, et octavo secundum, superantibus; primo multo brevior. Cauda mediocris, prope æqualis, rectricibus duodecim aliquanto rigentibus. Pedes validissimi, tarsi quam digiti mediæ posticique longioribus, unguibus compressis, subvalidis.*

**HYPERPES CORALLIROSTRIS**, sp. nov.

*Capite, gutture, pectore et abdomine schistaceo-brunneis, olivaceo indutis; collo, dorso, alis caudaque supra fusco-cæruleis, virente tinctis: remigibus fuscis, extus pallide marginatis, intus cer-*

\* ὑπὸ, sub; ἕρπης ex ἔρω, reptō.

*vino latius limbatis, ut in Tichodroma: uropygio et crisso subrufescentibus, reatricibus obsolete fuscatis: rostro toto coccineo; pedibus plumbeis: iridibus obscure rubris.*

Longitudo tota 4·8 poll. Angl. et dec.; rostri a fronte ·4, a rictu ·65; alæ 2·9; caudæ 2·2; tarsi 0·9; digiti medii cum ungue 0·8, postici 0·97.

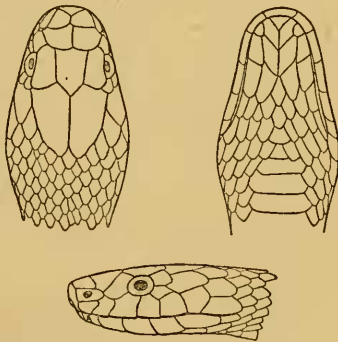
March 24, 1863.—W. H. Flower, Esq., F.Z.S., in the Chair.

DESCRIPTION OF A NEW SPECIES OF HOPLOCEPHALUS WITH  
KEELED SCALES. BY GERARD KREFFT, CORR. MEMB.

HOPLOCEPHALUS CARINATUS, sp. nov.

Scales in 23 rows. Anal entire. Ventrals 165. Subcaudals 54.

Body elongate and rounded; tail rather short, not distinct from the trunk, tapering, ending in a conical spine. Head broad, quadrangular, distinct from the neck; muzzle short and broad; eye moderate, pupil rounded; rostral broad, just reaching the surface of crown, with a groove along the lower edge; anterior frontals moderate; posterior frontals much larger, five-sided, rounded behind. Vertical moderate, five-sided, with an acute angle behind; superciliaries large, raised above the eye; occipitals moderate; one anterior ocular, slightly grooved; two posterior ones; one large temporal shield, two smaller ones behind; no loreal, this being replaced by the nasal; the second upper labial, anterior ocular, and posterior frontal bend down on the sides. Seven upper labials, the third and fourth touching the orbit.



Scales rather narrow and elongate, in twenty-three rows anteriorly, somewhat broader, and in nineteen rows posteriorly, strongly keeled, forming fourteen raised lines upon the back and sides; brownish olive above, with some irregular interrupted blackish rings, which become more and more obsolete towards the tail; skin between and upon the underside of the scales black; belly whitish, clouded with purplish grey on the sides, much darker towards the tail, which is of a uniform purplish colour below.

This *Hoplocephalus* differs from all the other known species in

the strongly keeled scales and the seven upper labial shields. Total length 38".

Discovered by Mr. James J. Wilcox near Grafton, in the Clarence River district.

### MISCELLANEOUS.

#### *On the Habits of Lycosa Blackwallii.*

*To the Editors of the Annals and Magazine of Natural History.*

GENTLEMEN,—In the description of the large Madeiran *Lycosa* (*L. Blackwallii*), printed in the August Number of the 'Annals,' I was not able to say much about the habits of this spider. I have, however, been lately favoured with some notes on this subject by my friend Mr. F. Pollock, who obtained specimens from the mountains above Funchal, in localities at a height of 2000 feet at least above the sea. He kept them alive for some months, and brought several females with him to England. These notes you will, I dare say, consider worthy of being printed.

"It seems to be the custom," Mr. Pollock writes, "for this spider either to take possession of or to excavate holes, four or five inches deep, in a sloping bank, at the height of four or five feet above a piece of level ground. At the mouth of the hole is placed a web, with an opening at the middle for the egress of the spider; but I do not think the inside of the hole is lined with a web. They are rather slow in their movements when dug out during the daytime. Instead of running away, they would stand at bay, even showing fight and seizing with their palces any stick presented to them. As I never met with one outside its hole, their habits are probably nocturnal; and when they issue from their places of concealment in search of prey, their movements are doubtless more rapid than by day. When two or three have been put into the same box, I have seen them run after one another with great quickness. They are exceedingly pugnacious; for on one occasion, when I placed several individuals together in the same box, they all fought together, and not one survived. They are remarkably fearless, and would seize a wasp and devour it at once, without any sort of protection such as an *Epeira* makes by surrounding its prey with web.

"From the 7th to the 19th of April, I kept some of these spiders alive in separate cells of a box, feeding them on bluebottles and wasps. I then brought them to England with me, where they arrived on May 7th, having been shut up in a box which was placed in a packed portmanteau, which portmanteau was also put in the hold of the ship; so that it is evident they require very little air, and can go a long time without food. On arriving in England, they were placed in small sieves with a sheet of glass over them. They never seemed to make any lines, except on one occasion, when two very fine females got loose and fought like bull-dogs, and I had great difficulty in separating them: during the combat, I observed one of them attach